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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/650,853 | 08/29/2000 | Mandeep Singh Chadha | CHADHA 3-3-1 | 9879 |

27964 7590 08/13/2003

HITT GAINES P.C.
P.O. BOX 832570
RICHARDSON, TX 75083

EXAMINER

BARNIE, REXFORD N

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2643

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DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/650,853

Applicant(s)
CHADHA ET AL.

Examiner
REXFORD BARNIE

Art Unit
2643



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 29, 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

RJBarnie
REXFORD BARNIE
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Damany et al. (US Pat# 5,970,137) in view of Long (US Pat# 5,926,505).

Regarding claim 1, Le Damany et al. teaches an echo cancellation system comprising of a first echo cancellation stage, an intermediate separation circuit and a second echo cancellation circuit in (see figs.) In addition to the fact that residual echo can be determined in (see col. 8 lines 56-61) but fails to teach the details of the separation circuit.

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Long teaches an echo cancellation system with a first echo cancellation means and a second cancellation stage comprising of an equalizer, feedback mode, gain control and so forth in (see fig. 11). Furthermore, according to (see fig. 7), there could be an equalizer/slicer stage

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of long into that of Le Damany thus making it possible to reduce echo and improve signal intelligibility.

Regarding claims 3-4, the combination teaches the claimed subject matter. See the explanation as set forth regarding claim 1.

Regarding claim 7, It would have been obvious in light of Long who teaches a DC canceler associated with echo-canceler means.

3. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Damany et al. (US Pat# 5,970,137) in view of Long (US Pat# 5,926,505) and further in view of Shaw (US Pat# 5,610,909).

Regarding claims 2 and 5, The combination fails to teach a delay means associated with a first and second echo cancellation stage in (see figs. And disclosure).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shaw into that of the combination thus making it possible to effectively provide echo cancellation.

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4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Le Damany et al. (US Pat# 5,970,137) in view of Long (US Pat# 5,926,505) and further in view of Duttweiler (US Pat# 5,631,899).

Regarding claim 6, The combination fails to teach the claimed subject matter but it's notoriously well known to employ finite/infinite filters for echo cancellation. Duttweiler teaches an echo cancellation system comprising of a first echo cancellation stage and a second echo cancellation stage with an intermediate means connected to a first echo canceler in (see figs.) Wherein a first canceler can generate an impulse response (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Duttweiler into that of the combination thus making it possible to reduce noise and enhance signal intelligibility.

5. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magid (US Pat# 6,532,289) in view of Lindgren et al. (US Pat# 6,597,787) or Le Damany et al. (US Pat# 5,970,137).

Regarding claim 8, Magid teaches a method and device for echo suppression wherein residual echo can be determined and then suppressed or reduced by using the means shown in (see figs.) But fails to teach the subject matter of filtering.

Lindgren teaches an echo cancellation device for canceling echos in a transceiver wherein filtering can be used in dealing with residual echo in (see abstract, figs. And disclosure).

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Le Damany teaches an echo cancellation system wherein filtering can be used in controlling echo (residual) and so forth in (see col. 8 lines 56-61 and fig. 2),

therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either Damany or Lindgren into that of Magid thus making it possible to reduce or control echo effectively which results in a better signal.

Regarding claims 8-13, The combination teaches the claimed subject of being able to control and adjust factors when reducing echo.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magid (US Pat# 6,532,289) in view of Lindgren et al. (US Pat# 6,597,787) or Le Damany et al. (US Pat# 5,970,137) and further in view of Duttweiler (US Pat# 5,631,899).

Regarding claim 14, The combination fails to teach the claimed subject matter but it's notoriously well known to employ finite/infinite filters for echo cancellation. Duttweiler teaches an echo cancellation system comprising of a first echo cancellation stage and a second echo cancellation stage with an intermediate means connected to a first echo canceler in (see figs.) Wherein a first canceler can generate an impulse response (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Duttweiler into that of the combination thus making it possible to reduce noise and enhance signal intelligibility.

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Allowable Subject Matter

7. Claims 15-28 are allowed.

Conclusion

8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to REXFORD BARNIE whose telephone number is (703) 306-2744. The examiner can normally be reached on Monday through Friday from 8:30 to 6:00p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to (703) 872-9314 and labeled accordingly (Please label

"PROPOSED/INFORMAL" or "FORMAL").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 306-0377.

Rexford Barnie
Patent Examiner
RB 08/08/03

RBarnie
REXFORD BARNIE
PRIMARY EXAMINER